

CLAIMS

1. A packaging bag comprising opposed first and second film plies joined at a closed end of the bag and sealed along lateral edges of the bag, said plies
5 defining an open mouth end having a first edge of the first ply and a second edge of the second ply which projects beyond the first edge of the first ply and comprises a folded over film portion to exhibit double thickness at the exposed end of the second ply, wherein the margin of the folded over portion of the second ply is disposed adjacent to the edge of the first ply so as to
10 provide a substantially constant thickness of the bag across the mouth and projecting portion.
2. The packaging bag according to claim 1, wherein the length of the folded over film portion is less than 5 % of the total length of the bag.
- 15 3. The packaging bag according to claim 1, wherein the length of the folded over film portion is less than 3 % of the total length of the bag.
4. The packaging bag according to claim 1, wherein the length of the folded
20 over film portion is less than 1 cm.
5. The packaging bag according to claim 1, wherein the length of the folded over film portion is less than 8 cm.
- 25 6. The packaging bag according to claim 1, wherein the length of the folded over film portion is less than 0.5 cm.
7. The packaging bag according to claim 1 wherein the two plies are joined at a fold line defining the closed end.

8. The packaging bag according to claim 1, including at the closed end of the bag a first seal line joining the first and second plies and further seal lines extending from the closed bottom of the bag and converging toward one another in a direction towards the further seal line.

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9. The packaging bag according to claim 8, wherein said further seal lines meet at the said additional seal line.

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10. The continuous strip of transverse-sealed packaging bags that can be easily separated one from the other, wherein the transverse-sealed bags are in accordance with claim 1.

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11. An apparatus for manufacturing a plurality of packaging bags according to claim 1, comprising means for feeding a flattened tubular film material having first and second marginal folds along a film path, means for transversely sealing said tubular film at regularly spaced locations to define the joins between contiguous transverse-sealed bags to be formed from said tubular film material, means for taking up said succession of transverse sealed bags from said transverse sealing station, and means for slitting one flat wall of said flattened tubular film material in proximity to said first fold of said film material to define said second mouth edge extending beyond said first mouth edge, said slitting means being mounted upstream of said transverse sealing station.

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12. The apparatus according to claim 11, and further including means defining a tear-initiating formation at said closed end of the bags by heat sealing said flattened tubular film close to its second marginal fold.

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13. The apparatus according to claim 12 and including an air introduction nozzle extending transversely across and within said tubular film material either at said slitting station or downstream of it but before the heat sealing of the flattened tubular film close to its second marginal fold, for introducing air
5 into the space between said superposed plies.
14. The apparatus according to claim 11, wherein said slitting station comprises an anvil arranged to be disposed within said tubular film material at said slitting station and to extend upstream from a carrier, and a slitting blade
10 disposed adjacent said anvil whereby said slitting blade will slit only said first ply passing over said anvil.
15. The apparatus according to claim 14, wherein said anvil and said slitting blade are fixed to said carrier, and including means for releasably attaching
15 said main carrier to the machine frame.
16. A method of making a plurality of packaging bags according to claim 1, comprising
- 20 a. feeding a flattened tubular film material along a machine direction while exhibiting first and second superposed plies extending between first and second marginal folds of said tubular film material,
- b. slitting said first ply in proximity to said first marginal fold of said flattened tubular film material while leaving said second ply unslit whereby said second ply has a turned over edge at said first marginal
25 fold of the tubular film material,
- c. downstream of said slitting station transversely sealing said tubular film material along a plurality of regularly spaced transverse seal lines which extend into said second ply at said turned over edge in proximity to the first marginal fold of the tubular film material, and

d. delivering the plurality of transverse-sealed packaging bags thus formed.

- 5 17. The method according to claim 16, wherein said transverse sealing operation applies closely spaced seal lines defining lateral margins of contiguous transverse-sealed bags, and between said closely spaced seal lines a line of weakness permitting subsequent separation of said contiguous bags from one another.
- 10 18. The method according to claim 16, and including the further step of separating said transverse-sealed bags from one another and presenting them in a package ready for subsequent use at a bag loader.
- 15 19. The method according to claim 16, and including the further step of applying, at said second marginal fold of the tubular film material, a longitudinally extending seal line spaced inwardly from said second fold of the tubular film material, and applying additional seal lines which extend from said second fold line in a converging manner towards said additional seal line.
- 20 20. The method according to claim 16, wherein said tubular film material is formed of a heat-shrinkable plastic film.
- 25 21. A process of packaging comprising:
(A) opening a bag by pneumatically inflating the mouth of the bag, wherein the bag comprises first and second film plies joined at a closed end of the bag and sealed along lateral edges of the bag, said plies defining an open mouth end having a first edge of the first ply and a second edge of the second ply which projects beyond the first edge of the first ply and

comprises a folded over film portion to exhibit double thickness at the exposed end of the second ply, wherein the margin of the folded over portion of the second ply is disposed adjacent to the edge of the first ply so as to provide a substantially constant thickness of the bag across the mouth and projecting portion;

(B) holding the bag open; and

(C) introducing a product into the bag.

22. The process according to claim 21 wherein the bag is produced by a method comprising:

- a. feeding a flattened tubular film material along a machine direction while exhibiting first and second superposed plies extending between first and second marginal folds of said tubular film material,
- b. slitting said first ply in proximity to said first marginal fold of said flattened tubular film material while leaving said second ply unslit whereby said second ply has a turned over edge at said first marginal fold of the tubular film material,
- c. downstream of said slitting station transversely sealing said tubular film material along a plurality of regularly spaced transverse seal lines which extend into said second ply at said turned over edge in proximity to the first marginal fold of the tubular film material, and
- d. delivering the plurality of transverse-sealed packaging bags thus formed.